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ABSTRACT

A rationale and illustration of the use of original records or protocol materials in an evaluation research report are described. Records of school observations and audiotape transcripts were selected to represent the concepts or categories which were developed in the process of evaluation. These qualitative data were collected in a project which used a variety of methods, and, in conjunction with quantitative data, formed the basis of an evaluation report somewhat analogous to a case study. This view of evaluative research within the case study tradition should, in the long run, provide a more detailed analysis and understanding of the process and outcomes of education. (Author/BB)

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Adding Dimension to Evaluative Research Through the Use of Protocol Material*

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This paper will describe the rationale and use of illustrative protocol material in an evaluation report. The term protocol is used here in the sense of an original record--a transcript, detailed observational notes, audio or video tapes, from which later analyses and inferences are drawn. The term protocol also connotes selectivity in the sense that B. Othanel Smith (1969) conveyed in his discussion of the use of protocol materials in teacher preparation. Recordings of behavioral situations were to be selected to represent specific dimensions of settings in which behavior occurs and to represent the category or concept the recordings are intended to illustrate. Similarly, the records of school observations and audiotape transcripts represent the concepts or categories which evolved from or were used in the evaluation research study. The rationale for the use of qualitative data in evaluative research, and for presenting protocol material or original records in the evaluation report is discussed below.

Rationale

Recent work in evaluation has held the premise that knowledge in education, and more particularly evaluation theory and methodology, can be advanced by the application of the ways of knowing--the styles of

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conceptualization and techniques of acquiring information--of several disciplines. This trend would bring evaluative research in education more firmly within the traditional patterns of inquiry within the social sciences.

Diesing (1971) has characterized and discussed these various methods within two broad categories: formal methods and theories, and participant-observer and clinical methods. He has called these methods "patterns of discovery," since he is dealing with the whole process of inquiry, including the creating and developing of knowledge, and not just the verification of knowledge. Bruyn (1966) has analyzed the problem of inquiry in a different manner, but also contrasts two major approaches within sociological research, one representing the quantitative and the other the qualitative study of human phenomena. Within the quantitative research tradition, there are a variety of approaches, including traditional empiricism. In qualitative research, there are more interpretive types of inquiry, including participant observation. Glaser and Strauss (1967) have attempted to document and explain the usefulness of qualitative research for "The Discovery of Grounded Theory."

In educational evaluation, Louis Smith and his colleagues have begun to demonstrate the usefulness of techniques from psychology, sociology and anthropology. Smith and Pohland (1972) have described the contributions of methods from these disciplines in the evaluation of a CAI project. Berlak (1971), Solomon (1971), and Seif (1971) used participant observation in curriculum research and evaluation projects. The 1973 Request for Evaluation Proposals in the USOE Experimental Schools Program included provisions for the development of narrative case studies of these projects.

As discussed in another presentation (Tittle, 1973), the use of a variety of methods and concepts from other disciplines is undertaken in educational evaluation to go beyond the minimum paradigm for evaluation of defining objectives and measuring pupil change before and after the provision of learning experiences. The alternative view requires a change, or at least an addition to, the current paradigm for evaluation based on experimental design. The change in perspective for evaluation is intended to provide a better understanding of the context for evaluation, and of the process which intervenes between the first and second assessment of behavior. The need to encompass a variety of methods leads to an analogy with a case study, where careful, extensive descriptions are developed. This alternative paradigm for evaluative research moves toward the more detailed analysis and understanding of settings in education. The application of concepts and methods from a variety of disciplines in the case study tradition seems to be an alternative which will eventually permit a better understanding of the variables involved in effecting pupil change or change in the behavior of other persons involved in education. Eventually, these series of case studies might permit "cross setting" evaluative research, from the descriptions and coding categories which would be developed, much as cross cultural research is conducted from the anthropological area files.

Use of Protocol Material

As Dr. Spilman's paper (1974) indicates, it is possible to work with qualitative data, beginning in an intuitive but reflective manner, and evolve categories for which there is consensus in coding. In one sense this is nothing more than the usual application of content analysis to a series of seminar transcripts. However, the application in evaluation

differs in a very fundamental sense: that is the sense in which the evaluator must arrive at an assessment of the merit or worth of various effects and outcomes. In this instance, the assessment was of the outcomes of a seminar for the faculty attending and for the documents which the faculty produced. In this evaluation project, the evaluator had to be both inquiry oriented, to develop knowledge and understanding of what happened in terms of emotional interchanges and the resulting qualitative records, and at the same time realize that the results of the inquiry must permit evaluation--judgments of value or worth. The category system (reported in Spilman, 1974) developed from this particular type of inquiry, and the categories were foreordained to be evaluative: How had the purposes of the seminar been explained or conceived, both by Dr. Marcos and the faculty involved? What was good or bad about this seminar, i.e., what intuitively came through as good or bad experiences of the seminar? A more general statement of these categories would take the form, What was good (or bad)? Why was it good (or bad)? What was good (or bad) in relation to goals or objectives?

For the seminar evaluation, it was clear that quantitative records, such as drop outs, absence, silence if attending, and positive or negative reports produced by individual members, conveyed the information that the experience was negative for many faculty members. But to gain an understanding of why this was the outcome, three approaches were taken. One was the application of group process analysis to a sample of audiotapes, the second was the interpretive narrative, and the third was the inclusion of protocol material in the descriptive and evaluative sections of the report.

The group process analysis used the Reciprocal Category System of Ober (Tarrier, 1973). This data indicated that group maintenance behaviors, such as accepting, amplifying contributions of another, and warms atmosphere, were among the lowest frequency of categories of leader behavior. Task categories such as elicits, responds, initiates, and directs, accounted for about 80% of Marcos' remarks. From the standpoint of group theory, the heavy emphasis on task behavior was inappropriate, in a situation where the leader, Marcos, was not perceived as having all the knowledge to give, and group members felt that they had something to bring to the seminar.

The second approach went beyond the level of statements just made, to present an "interpretive narrative" as the main evaluation statement for the Marcos seminar (Howell, 1973). The interpretive narrative described expectations and assumptions of both Dr. Marcos and the faculty members, and went on to describe what actually happened in the seminar during the Fall, Winter, and Spring series of sessions. This interpretive narrative was dependent on the evaluative category system mentioned above. The outline for the narrative was essentially the category system and the interpretation came from the conceptualization in the evaluation category system.

The third approach was the inclusion of protocol material (original records) in the description and evaluation sections of the report. Transcripts of Dr. Marcos interactions in the faculty seminar setting, and in various school settings, were included to illustrate the type and quality of interchange described in the interpretive narrative, group process analysis, and in school training sessions.

This integration of protocol material serves several purposes. The use of original records makes concrete the content analysis of the quali-

tative material and also provides a sampling of the basic data. Including a sampling of basic data permits verification or alternative interpretations by other evaluators. An exmaple of an alternative interpretation of basic data is found in Lighthall's review (1973) and explanation of Smith and Keith's work (1972) documenting an organizational analysis of an innovative elementary school.

Spence has provided a discussion of the problem of analyzing and summarizing behavior in his article on analog and digital descriptions of behavior. Behavior is continuous, and "categorization begins when we attach words to the phenomenon and continues as we group the words into some theoretical hierarchy or scheme of classification. There is no limit to the kinds of categories we can invent, and they all have one thing in common: They can only approximate the reality we are trying to describe (1973, p. 479)." He goes on to note that there are obvious limitations to an attempt to create a permanent library of real events, since it is simply a copy of the real world and thus no saving. If less than the real events are stored, then we have all the disadvantages of an incomplete library. Where data are transformed, there are errors introduced.

In dealing with the complexities of educational phenomena, the most useful strategy is a compromise: the development of categories and quantitative data, but retention of original records in sufficient detail and representativeness to permit their use in illustrating our summary of the events and to permit reinterpretation.

An Illustration

If the interpretive narrative and group process analysis agree that Dr. Marcos had a particular view of himself as leader, one in which he

expected others to find and agree with his point of view, protocol materials can make concrete the quality of this view of leadership. Examples of this type of interaction were recorded in the training sessions with teachers and in the seminar. An example from the summer teacher training session is as follows:

> "...I didn't put into circulation anything to read until late last week. I didn't show you my work on reading and mathematics as such until last week (fourth week of the five-week session), because you have not come here to learn my past. I have not realized myself in that school yet. What I realized was that certain things connected with a certain vision. If it is a tool that you can put in your hands to save time, by all means; if it is not, then it doesn't appear. I have done many, many things in my past I couldn't even put in your hands. Now, as a servant of yours, I am trying to demonstrate what is the role of a leader today. It's the one who knows--who knows what there is to do at every minute, which you can't do--you can't have in your memory, you can't have in your past. To know what to do now requires that I get now the impact, not the one that I received from somewhere else at another time. It has to be now...(quoted in Tittle, Howell, and Spilman, 1973, p. 67)."

In a meeting with the school administrators, Dr. Marcos presented a written statement evaluating the school's progress after three months of operation. An administrator mentioned obtaining supplies for teachers

of laboratories (subjects such as science, art, etc.); Marcos replied.

> "This is the type of thing I am talking about. If the teachers say they want help, then we are not interfering, but are supporting them. This is why I take the initiative in writing a view of the school, and perhaps everyone could, because it is complementary. All know, and if everyone tries to take their bearing after these three months, it will be helpful. I speak as someone who sees the forest...(quoted in Tittle, Howell, and Spilman, 1973, p. 76)."

During the early part of the project, detailed summaries of the faculty seminar meetings were prepared. The summary for October 20, 1971, shows how individual quotations were integrated with the summary:

> "...An additional question that came to the fore from time to time was that of Dr. Marcos' role with respect to the seminar. At one point, early in the period, he said, "What I feel at this time is one voice, like yours, and I'll express myself just as one person in this seminar." That, however, was evidently not the perception, nor was it the desire of the group. Later, the fourth faculty member (above) urged Dr. Marcos to "take the leadership of the seminar," but he declined, saying that he was present as a guest, although he had earlier admitted having a part in "steering" the group. Toward the end of the discussion another professor asked him, "Are you chairing this seminar or not?" He made it plain that he was not, but shortly afterward (the problem of chairmanship having been left unresolved) he make a transition

> to an instructional mode of operation in which he began to describe his method of measuring the "cost of education" to the pupils (quoted in Tittle, Howell and Spilman, 1973, pp. 96-97)."

Summary

This paper has presented a rationale and illustration of the use of original records or protocol materials in an evaluation research report. Records of school observations and audiotape transcripts were selected to represent the concepts or categories which were developed in the process of evaluation. These qualitative data were collected in a project which used a variety of methods, and, in conjunction with quantitative data, formed the basis of an evaluation report somewhat analogous to a case study. This view of evaluative research within the case study tradition should, in the long run, provide a more detailed analysis and understanding of the process and outcomes of education.

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